

AMENDED CLAIMS

1. A support structure having a seat surface (2), particularly for bicycles and other pedal operated machines, comprising a substantially rigid or semirigid frame (3), means (4) for securing said frame (3) to the bicycle or a pedal operated machine, a yieldable pad (7) secured to the top face of said frame (3), a covering layer (8) superimposed to the yieldable pad (7), said frame (3) has one or more differential rigidity portions (11, 11') adapted to facilitate the pedaling motion, said differential rigidity portions (11, 11') being located in the proximity of an outer peripheral edge (13) of said frame (3), characterised in that said frame (3) has at least one recess (12) along its outer peripheral edge (13), each of said differential rigidity portions (11, 11') comprising a plurality of elongated projections (14) extending outwards from their respective recesses (12) formed in said frame (3).

2. Support structure as claimed in claim 1, characterized in that said projections (14) have free ends (16).

3. Support structure as claimed in claim 2, characterized in that said projections (14) of each of said differential rigidity portions (11, 11') extend substantially parallel to one another so as to form a comblike structure.

4. Support structure as claimed in claim 3, characterized in that each of said projections (14) of each of said differential rigidity portions (11, 11') is located at a predetermined distance (H) from the other projections adjacent thereto, which distance may vary for each projection (14).

5. Support structure as claimed in claim 4, characterized in that each of said differential rigidity portions (11, 11') comprises filling elements (15) within the spaces between said projections (14).

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6. Support structure as claimed in claim 5, characterized in that the base material of said filling elements (15) is a plastic and/or elastomeric material.

7. Support structure as claimed in claim 6, characterized in that the free ends (16) of said projections (14) are substantially aligned to define an edge (17) which is connected with said outer peripheral edge (13) of said frame (3).

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8. Support structure as claimed in claim 1, characterized in that each of said projections (14) has a flexural and shear strength depending on the load direction.

9. Support structure as claimed in claim 8, characterized in that each of said
10 projections(14) has such a cross section and shape as to provide a predetermined flexural and shear strength, relative to load activity both substantially normal to said seat surface (2), and along a plane substantially parallel to the seat surface (2).

15 10. Support structure as claimed in claim 1, characterized in that said projections (14) are monolithic with said frame (3).

11. Support structure as claimed in one or more of the preceding claims, characterized in that said frame (3) has a laterally widened rear portion (9) for
20 supporting the buttocks of a user and an elongated front portion (10) defining a longitudinal axis (L).

12. Support structure as claimed in claim 1, characterized in that it comprises at least one pair of said differential rigidity portions (11), symmetrically located with
25 respect to said longitudinal axis (L).

13. Support structure as claimed in claim 12, characterized in that said symmetric pair of differential rigidity portions (11) is located at the sides of said widened rear portion (9) and/or at the junction between said widened rear portion
30 (9) and said elongated front portion (10).

14. Support structure as claimed in claim 13, characterized in that at least one of said differential rigidity portions (11') is located on the rear edge (18) of said widened rear portion (9).

5 15. Support structure as claimed in one or more of the preceding claims, characterized in that said yieldable pad (7) and/or said covering layer (8) have such an extension as to wholly or partly cover said differential rigidity portions (11, 11').

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